

The art and science of managing elderly patients with multiple morbidity

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Content Outline

- Definitions
- The elderly perspective
- The art : ‘medical humanities’
- The science: what is the evidence?
- What is needed: the patient; health and social care professionals; health and social care systems

Definitions

- Co-morbidity describes the co-existence of more than one disease.
- Strictly speaking the term is used when one primary disease is being considered, and treatment/management may be affected by the existence of other diseases – co-morbidity

Definitions (elderly)

- For the elderly population, the term ‘multiple morbidity’ may be more accurate, as commonly management seldom focus on a single disease in the presence of many
- Geriatric Syndromes can be substituted for diseases: combinations of diseases and syndromes

Measurements

- Different scales based on varying number of domains (symptoms, complications, prognosis without treatment, treatability, outcome measures such as disability or death), and in different settings (acute v. chronic)
- Examples: Charlson Index, Cumulative Illness Rating Scale, Index of Co-existing Disease, Kaplan Index. (de Groot V et al J Clin Epidemiol 2003;56:221-229)

Measurements

- Some scales emphasize mortality as the predominant outcome
- Chronicity, time course, healthcare use, patient impact (functional and psychological), may be more relevant components in the elderly population

Outcomes of relevance in multi-morbidity

- A study of 4000 men and women aged 65 years and over living in the community in Hong Kong showed increasing functional dependency and likelihood for depression, with increasing number of chronic diseases
- Multimorbidity defined by the number and severity of chronic diseases is associated with poorer physical function in a UK study (Kadam UT et al. Family Practice 2007; August 14)

Multimorbidity and quality of life

- A systematic review shows an inverse relationship between multimorbidity and QOL (Fortin M et al Health and Quality of Life Outcomes 2004;2:51)
- This may be related to improved quality of care with multimorbidity
(Higashi T et al. N Engl J Med 2007;356:2496-2504)
(Min LC et al. Med Care 2007;45: 480-488)

**Is this a reflection on a different
approach to managing
multimorbidity compared with
single diseases?**

The Geriatric Perspective

- Consider multimorbidity as part of the frailty phenotype: a transitional state between robustness and functional dependence, and death.

Clinical features of frailty

(J P Michel 2007 AsiaOceania Congress of Gerontology)

- **Symptoms**

weight loss

weakness

fatigue

anorexia

inactivity

- **Signs**

undernutrition

slow gait speed

balance abnormalities

sarcopenia

osteoporosis

Consequences of frailty

- Repeated falls
- Multiple trauma
- Functional decline
- Disability
- Hospitalization
- Infection
- Institutional care
- Death
- Personal suffering
- Carer suffering

The need for extension of the biomedical model in management of frailty

- **Interdisciplinary continuity of care**
- **Quality of life**
- **Ethics**
- **Surroundings (family, friends, community, health and social care systems)**
- **Daily function**
- **Biomedical model**

Continuity of care in the downward trajectory towards death

- Health promotion
- Focused prevention
- Pathological process (cure v. care; rehabilitative v. maintenance of function; palliative care, terminal care)
- Death, and the mourning process of the survivors

Ethics

- The balance between therapeutic withdrawing and therapeutic harrassment
- Culture and belief; professional and legal framework; feasibility
- Education (professional and public), and communication

Mike's poem

(Bolton G In Medical Humanities:Eds Kirklin Dm RichardsonR.
Royal College of Physicians 2001)

*Now this body, warped and twisted
Has nearly reached its end, and lets its blood
Flow freely into my drug-seared bowel.*

*And now returning to my bedside, this tall youth
Slightly flustered, pushes an ancient drip stand.
He looks like our Ellen's youngest;
Keen, eager to do his best, but fearful he won't make the
grade.*

Well, fearful or not, I can't let him have his way.

*‘You’re not putting that thing in me, young man!’
So now I lie, this quiet Sunday afternoon,
Waiting for some psychiatrist,
To try my failing faculties.
The day you gave me Lord is ending,
Now let the darkness fall.*

The “ART”

- ‘Unlike science, which is concerned with the general, the repeatable elements in nature, medicine, albeit using science, is concerned with the uniqueness of individual patients.

In its concern for the particular and the unique, medicine resembles the arts.’

(Calman and Downie, Lancet 1996;347:1499-1500)

The “ART”

- People are not objects: but shaped by differences in culture, ethnicity, socioeconomic strata, past experiences. Elderly people are particularly variable in their ability to cope with changing personal and the wider social environment
- “DISEASE” would better be replaced by **“ILLNESS EXPERIENCE”**

Culture, illness, and care

(Kleinman A et al. *Ann Intern Med* 1978;88:251-258)

- Makes distinction between disease and illness, as a strategy to be incorporated into teaching and practice, to deal with major health care problems such as patient dissatisfaction, inequity of access to care, and spiralling costs, all of which do not seem to be amenable to biomedical solutions

Illustrative quotes

- ‘Biomedicine has increasingly banished the illness experience as a legitimate object of clinical concern. Carried to its extreme this orientation, so successful in generating technological interventions, leads to a veterinary practice of medicine.’
- ‘Health care planners both in developed and developing societies tend to build health care systems with only disease and the biomedical version of clinical reality in mind. This leads to predictable inadequacies in health care, which can only be corrected by attention to illness and to popular versions of clinical transaction.’

Illustrative quotes

- ‘....personal, family, social and cultural data that pertain directly to a patient’s illness....may obviate the need to consult psychiatrists, social workers, and psychologists, who presently function as surrogates for the diagnosis and treatment of illness problems.’
- ‘Medical practice will benefit from social science only to the extent that social science becomes a clinical discipline and is taught in the context of patient care.’

Why illness perception matter

(Petrie KJ & Weiman J.Clin Med 2006;6:536-539)

- Key determinants of behaviour directed at managing illness
- Components: identity of their illness, causal beliefs, timeline beliefs, beliefs about control or cure, consequences
- Patients do not spontaneously reveal their illness beliefs
- Negative illness perceptions are associated with poorer recovery and increases healthcare use independent of objective measures of illness severity
- Interventions to change illness perceptions can reduce disability and improve functioning

Symptoms and the perception of disease

(Donaghy M. Clin Med 2004;4:541-544)

- Discrimination between a symptom arising as a result of pathology or generated wholly psychologically, is central to the physician's art.
- The ability to notice things, to weigh up human nature and to recognise dilemmas, is of equal importance to scientific ability, as key attributes of a good doctor. (Equally applicable to all health professionals)

The need for a narrative approach

- Anthropological, or ‘telling stories’ approach (Kleinman & Benson, PLOS Medicine 2006;3: Issue 10; e294; Charon R. N Eng J Med 2004;350(9):862-864)
- ‘Clinical medicine is not a science,..but that it be conceptualized as a rational, science-using practice.....Presuming that [it is] impoverishes the clinical encounter’
- Applying the scientific method only perpetuates the myth that clinical medicine is a science
- Clinical medicine is a learned, rational science-using practice that describes itself as a science even though physicians have the good sense not to practice it that way’.
(Moore DE. JAMA 2006;295:2080-1)

The patient' journey: travelling through life with a chronic illness

(Lapsley P & Groves T.BMJ 2004;329:582-583)

- Need to treat patients, rather than the disease
:Empathy – ‘Getting inside the patients’ head’
- Need to consider the impact on patients’ carer and families

The narrative approach and healthcare systems

- Adoption of an expanded model of illness could facilitate improvement in healthcare delivery (Wade & Halligan BMJ 2004;329:1398-1401)
- This approach is amenable to evaluation of its impact on the process and outcomes of healthcare.
(Wensing & Elwyn BMJ 2003;326:877-879)

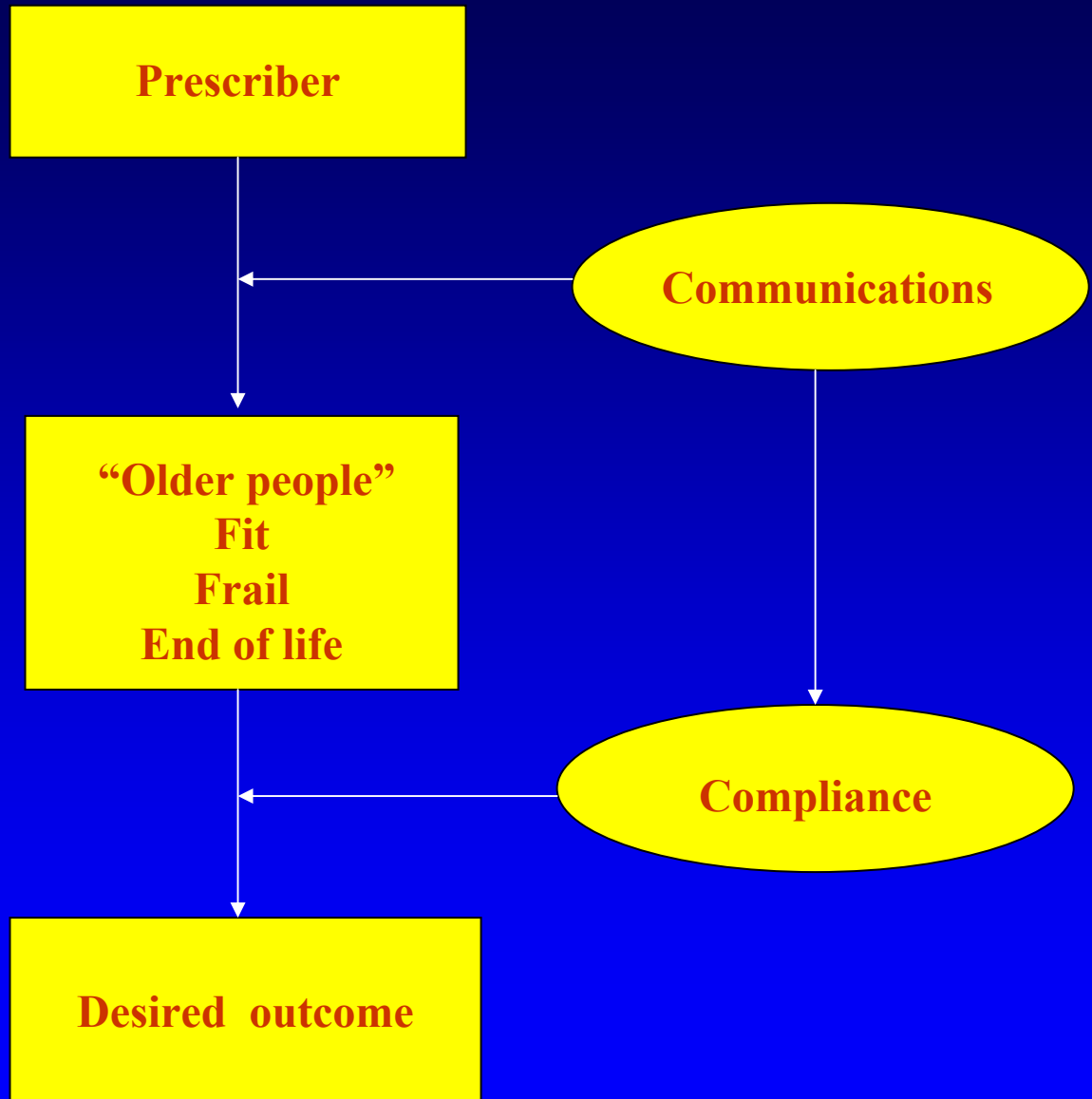
Art v. Science

- *‘There is no fundamental difference between the aspirations of the great artist and the great scientist or, for that matter, the great clinician. They are all striving to explore nature, or human nature, and understands the complexities for what they are.’*

*David Weatherall. Introduction to Medical Humanities.
Eds Kirklin & Richardson. RCP 2001*

The ‘Science’, or Evidence Based Medicine

Hypertension
Coronary heart disease
Stroke
Diabetes
Osteoporotic fractures
Parkinson's disease
Dementia



EVIDENCE : AVAILABILITY?

- **Common diseases affecting older people e.g. hypertension, diabetes, coronary heart disease, stroke, osteoporotic fractures**
- **Randomized controlled trials confined to “fit”, and “young old”. Geriatricians tend to look after the frail elderly, mean age 80 years
Difficult to recruit such patients; difficult to fit these patients into RCT design**

Example : Approach to symptomatic coronary disease in the elderly

(Lancet 2001; 358: 945-6)

- **Patients > 75 yrs account for 37% of hospital admissions for MI, yet for 60% of the deaths from this event.**
- **Only 6.7% of 719,922 patients enrolled in 593 published trials of acute coronary syndromes from 1966 to 2000 were > 75 yrs; and 10.3% of 201,357 patients from 1996-2000.**
- **Doctors may not treat without such evidence.**

Proportion of elderly patients in 593 published randomized trials of acute coronary syndromes

Therapy	Total number of patients	% aged ≥ 75 years
Magnesium	64,411	13.8
Vasodilator	91,986	13.1
Angiotensin-converting-enzyme inhibitor	135,412	9.2
Antithrombotic	167,878	8.6
Thrombolytic	259,179	8.0
Antiarrhythmic	45,430	7.6
Antiplatelet agent	91,712	6.9
β - blocker	56,517	3.7
Primary angioplasty	22,511	2.8
Calcium-channel blocker	20,692	1.1
Lipid-lowering agent	25,294	0

Cholesterol - lowering in patients with diabetes

- **Heart Protection Study of Cholesterol lowering with simvastatin in 20,536 high risk individuals (*Lancet* 2002; 360: 7-22). Reduced all-cause mortality, vascular death, major coronary events, in those with total cholesterol ≥ 3.5 mmol/L at high risk for CV events. Upper age limit of 80 years.**

Effect of Risedronate on risk of hip fracture in elderly women

Mr McChung et al NEJM 2001; 344: 333-40

<u>Group</u>	<u>Risedronate</u>		<u>Placebo</u>		<u>RR(95% CI)</u>	<u>P value</u>
	n	Incidence (%)	n	Incidence (%)		
Overall	6197	2.8	3134	3.9	0.7 (0.6 - 0.9)	0.02
70 –79 yrs.	3624	1.9	1821	3.2	0.6 (0.4 - 0.9)	0.009
+ vertebral # at baseline	1128	2.3	575	5.7	0.4 (0.2 - 0.8)	0.003
no vertebral #	1773	1.0	875	1.6	0.6 (0.3 - 1.2)	0.14
≥ 80 yrs with ≥ 1 clinical risk factor for hip #	2573	4.2	1313	5.1	0.8 (0.6 - 1.2)	0.35

- 941 \geq 80 have BMD measured at baseline
- Select those with osteoporosis (T score \leq - 2.5)
- Incidence of hip # (%)

Risedronate

7.2

Placebo

9.7

P

0.37

Meta-analysis of long-term ACE-inhibitor – therapy in CHF

M D Flather et al Lancet 2000; 355: 1575 – 1581

<u>Subgroup (yrs.)</u>	<u>N</u>	<u>Deaths</u>	<u>OR (95% CI)</u>	<u>Death/CHF/MI</u>	<u>OR (95% CI)</u>
< 55	3165	495	0.76 (0.62 – 0.93)	878	0.77 (0.66 – 0.91)
55 – 64	4315	994	0.84 (0.73 – 0.97)	1534	0.71 (0.62 – 0.81)
65 – 75	4194	1227	0.75 (0.66 – 0.86)	1761	0.67 (0.59 – 0.76)
> 75	1066	454	0.95 (0.74 – 1.22)	590	0.89 (0.69 – 1.13)

Summary: “..... benefit was apparent over the range examined”.

Spironolactone in treatment of heart failure

McMurray et al NEJM 2004;351:526-8
Juurlink D et al NEJM 2004;351:543-51

- Low dose spironolactone added to standard treatment reduces mortality by 30% over the subsequent 2 years in selected patients (RALES Am J Cardiol 1996; 78: 902-7).
- Increased prescription accompanied by increased hyperkalaemia-related admissions/deaths.
- Emphasizes the difference in clinical practice and the “real world”.
- “Every effort should be made to define the inclusion criteria for clinical trials, as broadly, and the exclusion criteria as narrowly, as possible, so that the findings are relevant to the greatest proportion of patients in clinical practice.”

Who will challenge evidence-based medicine?

“The basic error of EBM is quite simple. It is that epidemiological data *do not* provide the information necessary to treat individual patients. The error is intractable and intrinsic to the methodological nature of epidemiology, and no amount of statistical jiggery-pokery with huge data sets can make any difference.”

Charlton BG 1997; 3: 169-72.

Emerging issues

- Primarily a primary care issue
- Quality of care, rather than cure, is the outcome of concern
- Need to respond to accumulation and compression of morbidity
- Economic burden
- System obsolescence

Common themes in response

- Health promotion
- Self-management: concept of expert patients
- Care/disease management: high risk
- Case management: high complexity
- Knowledge management: population needs assessment, service planning

The Wagner Model

Bodenheimer T et al. JAMA 2002;288(14):1775-9

- Networking
- Chronic disease management as priority
- Self-management support
- Delivery system redesign

Need to move away from the acute care model, in which health services rescue patients when they become ill in an episodic manner, to a chronic care model, in which the resources of the health care system and communities are harnessed to provide quality care over time

- Decision support
- Information systems

Current situation in Hong Kong

- Services heavily hospital based, resulting in limited accessibility as well as increased costs
- Poor continuity of care
- Community self-help poorly developed
- Emerging needs of elderly living in residential care homes
- Palliative care in all settings poorly developed
- Multiple service providers (SWD, DH, HA, CRN, NGOs, private sector: interface less than ideal)

Current situation (cont)

- Increasing financial burden on healthcare systems
- Sustainability likely depend on active participation by individuals, both for prevention and management
- Absence of a primary care system to reduce demands on secondary and tertiary care

New approaches

- Patients

Perception of illness, empowerment, compliance

- Professionals

Use of non-medical professionals; trans disciplinary approaches

- Systems

Case management; community settings and group activities to promote self-management, compliance with treatment, lifestyle modification, through motivational and behavioural changes

Role of patients

- Patients' perception of illness (*Kleinman A*)
- Paradigm shift towards taking ownership of their problem (health professionals as partners)
(*Muir Gray, The Resourceful Patient*)
- Self-management supported by professionals and health/social care systems in the community

Self-management

- Programmes designed to help patients manage symptoms and contain health care resource utilization
- Systematic review:
71 trials of variable methods and standards; publication bias. Small to moderate effects shown for selected chronic diseases eg.diabetes and asthma. (Warsi a et al. *Arch intern Med* 2004; 164: 1641-1649)
- Not targetted towards multiple diseases/frailty

Major barriers to be addressed in promoting self management

- **Patient factors:** need to emphasize retention: programme needs to take into account cultural, linguistic, access and convenience factors
- **Professional factors:** need for cultural change away from medical model of management; need to present convincing evidence of beneficial outcome relating to disease management; need to address financial support and sustainability issues within an existing health and social services framework.

Current evidence regarding self management programmes

- Use of toolkits for self-management may have potential financial and clinical benefits (DeMonaco et al PLOS Medicine April 2007 Vol4 Issue 4)
- Expert patient (lay-led) education programmes: 6 week CDSMP: mainly disease based. UK target to cover 100,000 patients by 2010
- 4 RCTs in the UK showed that patients' confidence is increased but use of health care resources were not reduced (*Griffiths C et al, BMJ 2007 334:1254-6*)

Role of professionals

- Stepped care approach, with broad community coverage by health professionals other than doctors: Case manager liaising with GPs or specialist nurses, supported by Consultants
- Nurses as leaders in chronic care, especially in end of life care, adopting the principle of patient centred supportive care: understanding patients' perspectives
- Shift from disciplines/organization- centred towards patient centred approach

System change?

The problem with guidelines and standards in chronic disease management

- Lack of evidence: difficulty in recruiting frail elderly people into RCTs
- ‘Clinical trial evidence is shamelessly extrapolated across time, population subgroup, and condition: **The Road To Hell**’ *Iona Heath. BMJ 2007;335: 1185*

Obstacles to management of multiple morbidity

- Barriers to coordinated care:
Bureaucratic
Fiscal
- Possibility of coordinated budget for health and social care?
- Possibility of a one-stop health and social care setting?
- Lack of a coherent primary care system

The importance of primary care

- In the elderly in the US, a higher morbidity burden leads to higher use of specialist physicians, but not primary care physicians, even for patients with common diagnoses not generally considered to require specialist care
(Starfield B et al Ann Fam Med 2005;3:215-222)
- New paradigms of care that ...acknowledge the need for close coordination between generalist and specialist require support...the 'case' management concept
(Starfield B et al Ann Fam Med 2003;1:8-14)

Case management

- US Evercare model
Collaboration with GPs, other health and social care professionals in primary care, expanded nursing role in proactive managed care for patients at high risk for repeated hospital admissions and decline in function, using a team based approach, risk stratification using predictive tools to identify high risk patients, self-management and motivational interviewing

Outcomes of the case management approach

- Evercare model: Fewer hospitalizations and fewer prescription drugs; maintaining high levels of patients satisfaction; no change in mortality
- For long stay nursing home residents, nurse practitioner led programs in primary care has a major effect in allowing cases to be managed more effectively
(Kane R et al. J Am Geriatr Soc 2003;51:1427-34)
- Hong Kong data (1980s): nurse led case management of patients discharged from hospital showed demonstrable benefits (Mackenzie & Lee)

Adoption of the Evercare model by the NHS in the UK

- ‘Community matrons’. Need to be fully integrated into primary care.
- Conflicting views on usefulness
“Evidence is weak for case management for the elderly: unlikely to provide an off the shelf solution to achieving the required reductions in emergency admissions”
(www.kingsfund.org.uk/pdf/casemanagment.pdf)

Adaptation of these principles to the ageing population

- Programmes for chronic diseases as well as frailty syndromes
- Functional, social, psychological, nutritional, dimensions need to be incorporated
- Patient as part of discrete social network
- Main outcome is ‘maintenance’ rather than ‘restorative’ with respect to function; and maximizing quality of life

Advantages of group programmes among the elderly population

- Mutual support
- Incorporate as regular social activity, and therefore enjoyable, and not episodic 'classes' or 'rehabilitation' programme
- Setting allows constant reinforcement of information, and correction of misconceptions
- Lower cost than one to one interaction

Community Centre



Wellness Centre

- Healthy Lifestyle – healthy eating and exercise for health
- Learning – Various interest groups
- Chronic disease management and groups for health maintenance

Useful services: self-financing and potentially income generating

- Employment agency
- Skills register for useful home services
- OT & PT Aids
- Dental

Summary

- Multimorbidity in aging populations could best be regarded in the context of the frailty syndrome, for management
- Both humanistic and scientific training are required, taking into account the patients' perspectives
- There is little evidence to formulate guidelines for frail elderly populations: available evidence should be extrapolated with caution
- Health and social care system change is needed to cope with multi morbidity, driven by patients' needs as well as budgetary considerations